# Alien ants

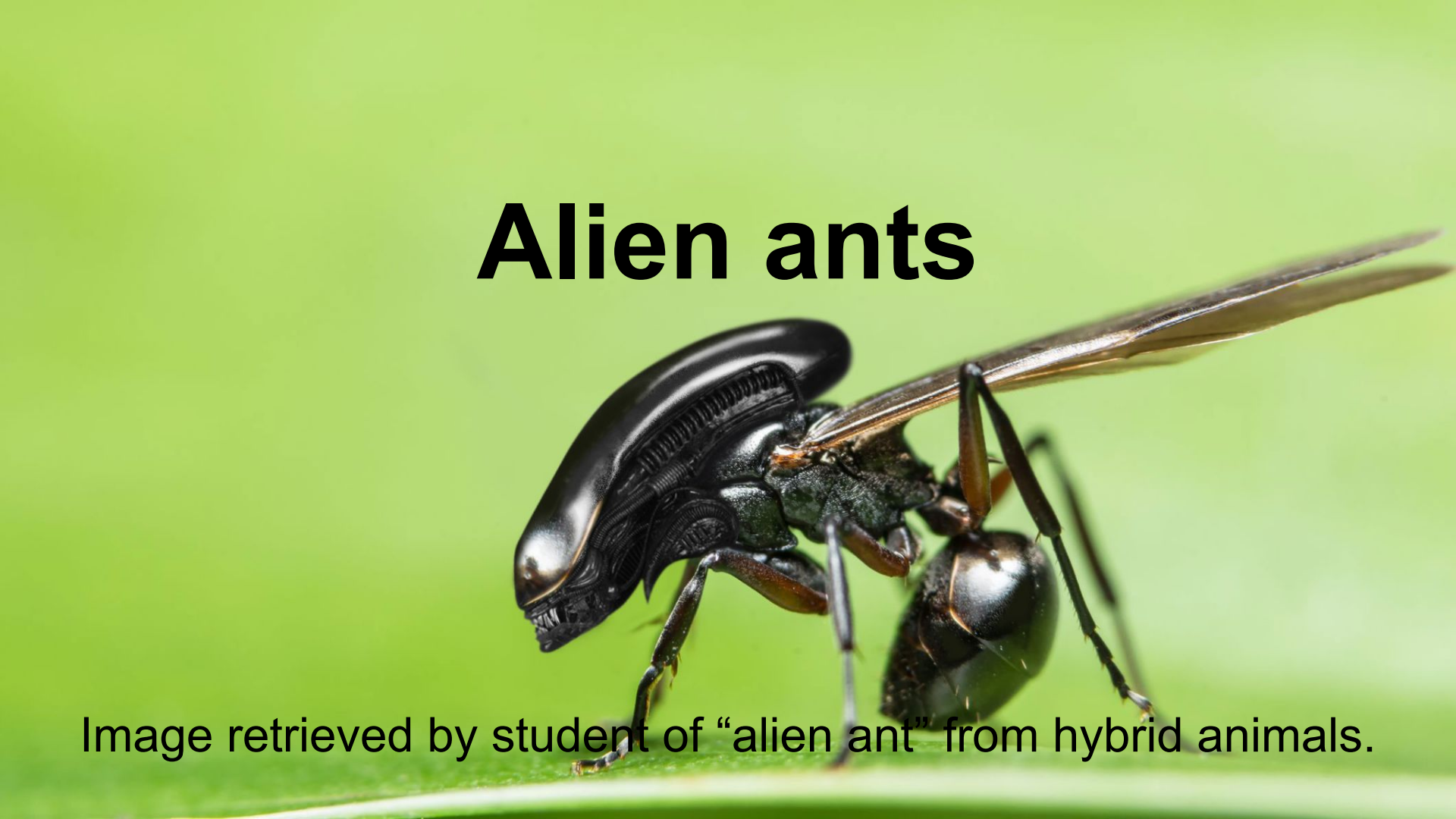


Image retrieved by student of “alien ant” from hybrid animals.

# Is life on mars truly impossible?

Let's dive into the wonders of mars!

Image of Mars crater, student retrieved image from space.com

**The reason whyI  chose this topic is because I've heard that NASA was trying to find life on mars because it is earth's most neighbor-like planet, possibly having past or even present microbial life.**

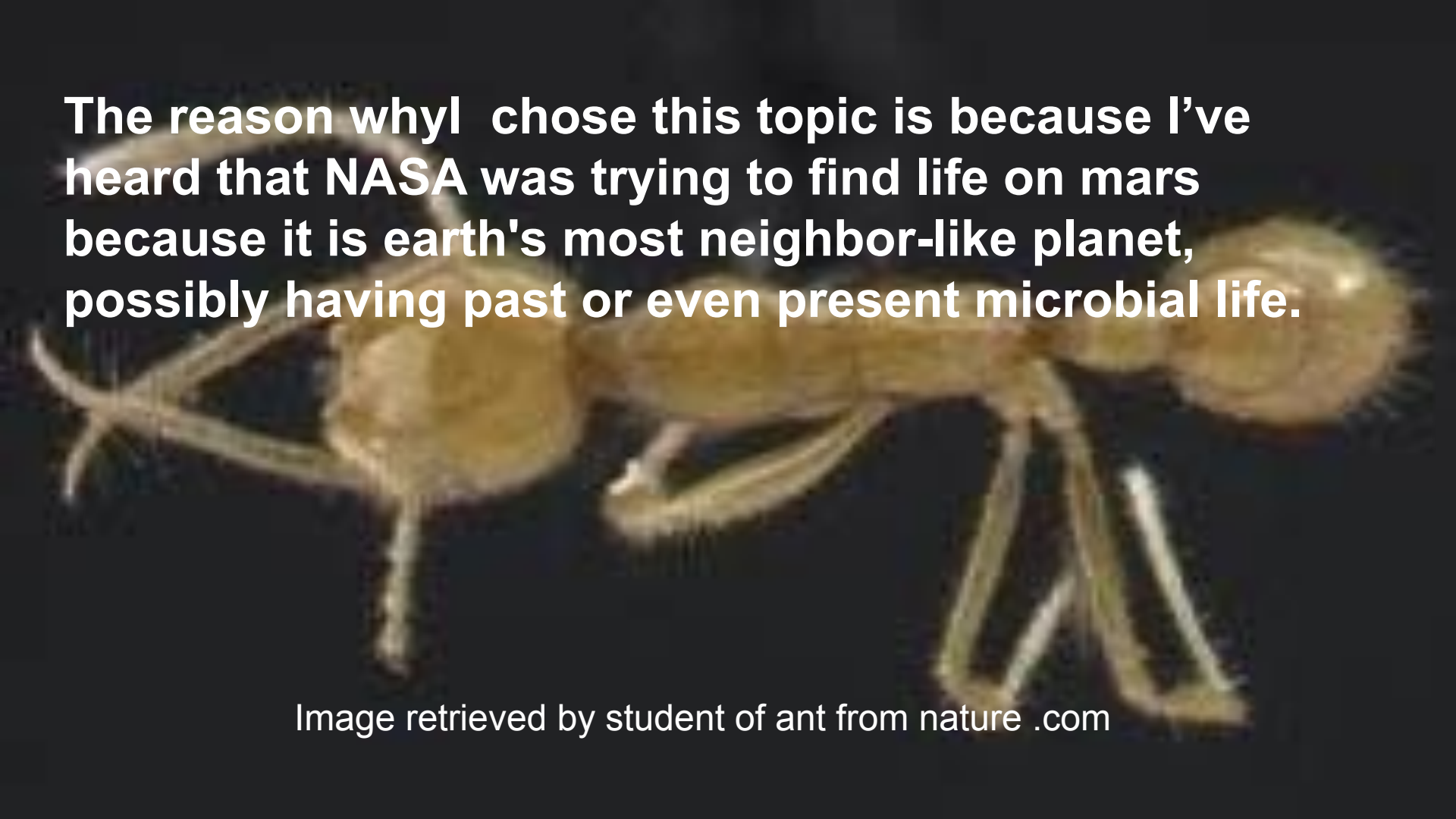


Image retrieved by student of ant from nature .com

**The main problem I am having is that the artificial mars sand has no organic material like no carbon hydrogen bonds, plus the sand is insanely fine so it falls apart really easy.**

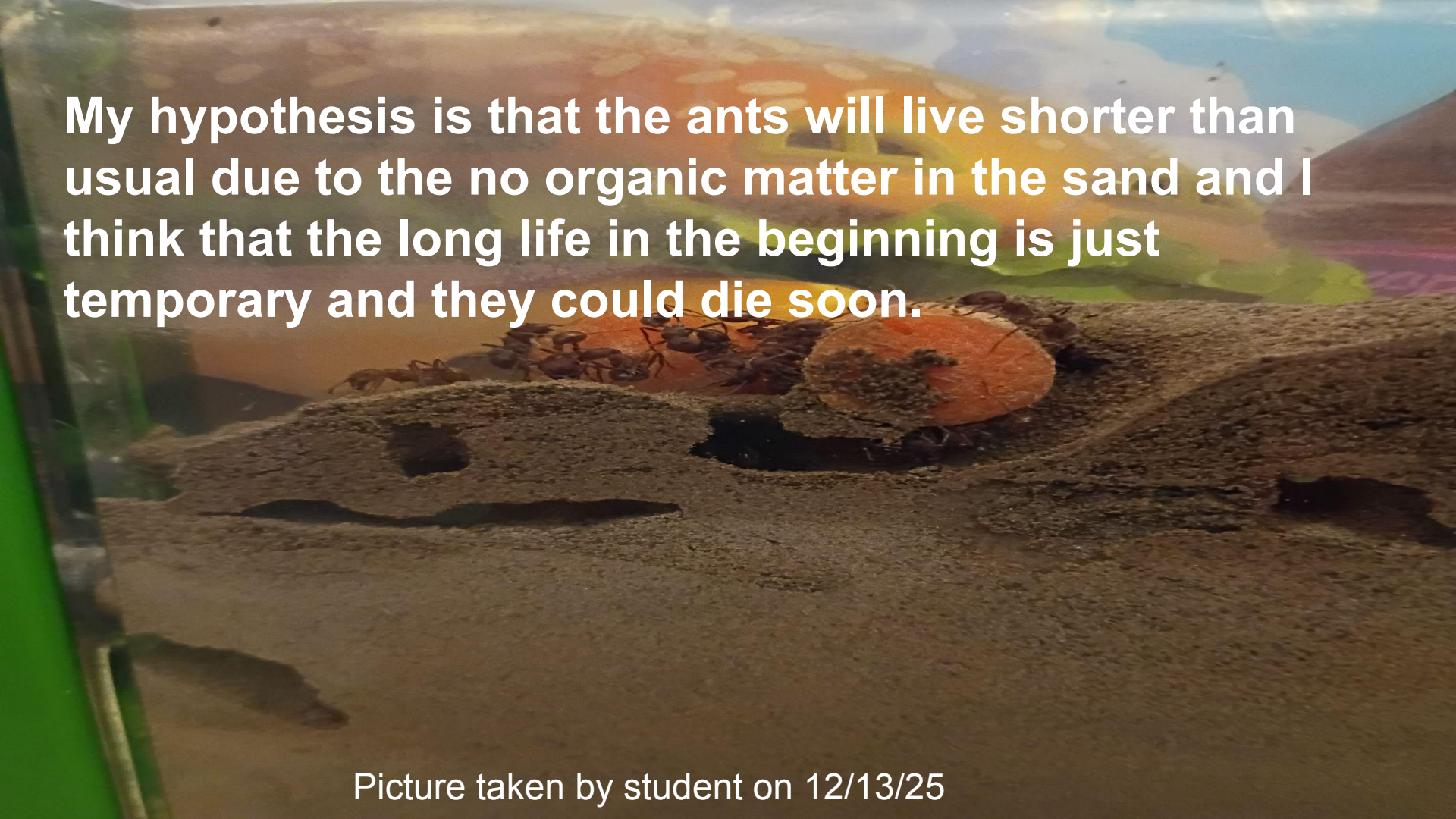
Image taken by student at home on:12/8/25

My question about the ant farm is how is not one of them dead? Reason I say this is because there is a ant that its head is chopped off from feeding. And not one of the ants is dead yet.

Dependent variables:
Tunnel length/width, number of chambers.

Independent variables:
Soil type, temperature levels and food.

Picture taken by student on 12/20/25


My hypothesis is that the ants will live shorter than usual due to the no organic matter in the sand and I think that the long life in the beginning is just temporary and they could die soon.
Picture taken by student on 12/13/25

Materials :

- Mars stimulating sand.
- Ants
- Ant farm
- Food, being carrots and cricket jelly protein blocks

# Procedure

- Safety first, put on a mask to not breath the sand in.
- Next put the ant farm on a clean flat surface to not spill on furniture
- Pour the sand in through a funnel, pour evenly.
- Put some food like carrots in then put about five drops of water in.
- Lastly put the ants inside for a crazy life.

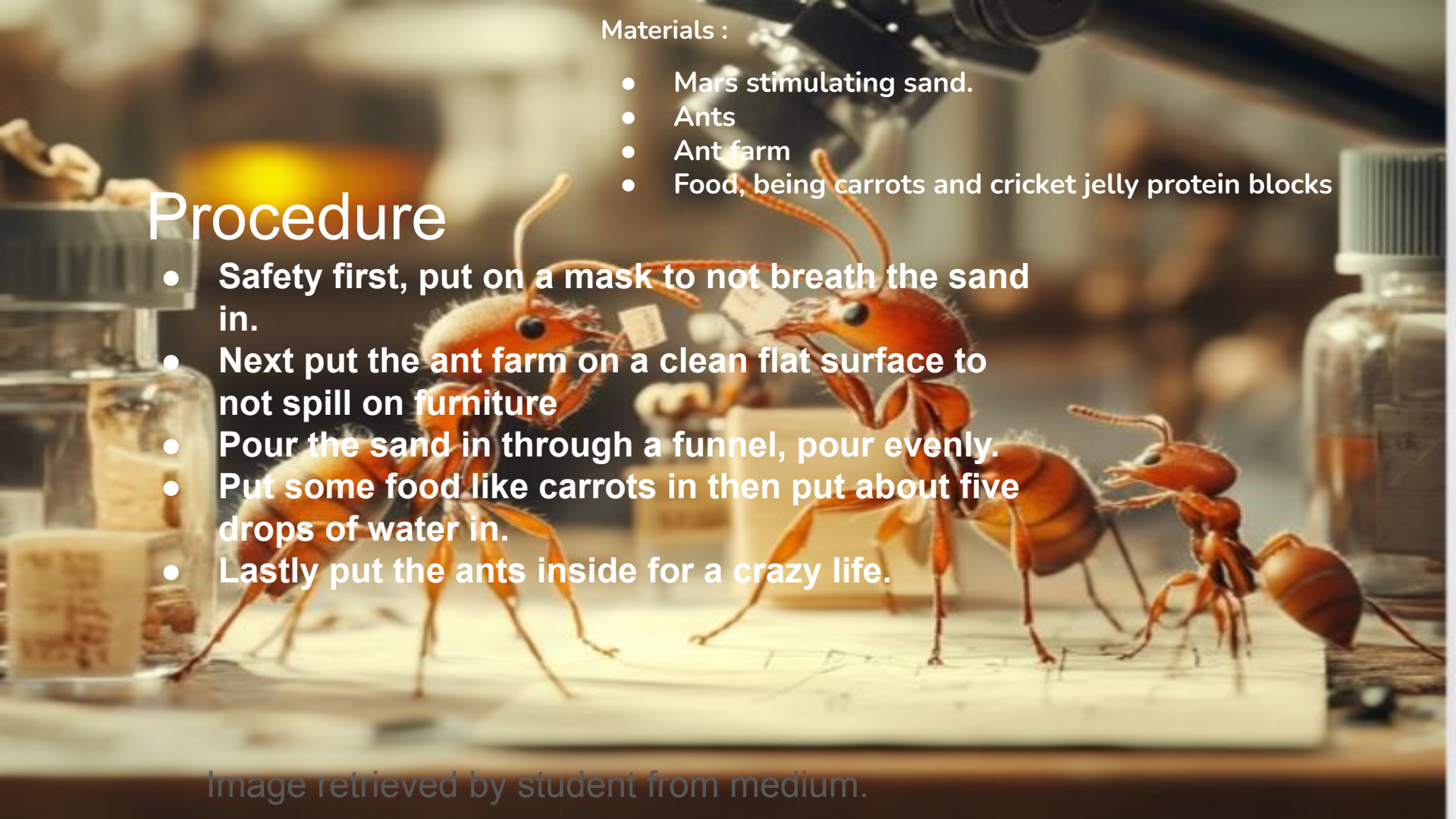


Image retrieved by student from medium.

## Measurements

- We started with 60 ants and currently at least we know there is still 60 ants.

- Tunnel depth: The farthest tunnel goes down to 18cm. But 20 on the other side.
- Tunnel width: 1cm
- Tunnel length: shortest tunnel is 2cm and the longest tunnel is 20cm.
- Number of tunnels: 14
- Activity Level: 7 active ants in tunnel construction.
- Moisture level: Dry sand.
- Temperature: 74 Fahrenheit.

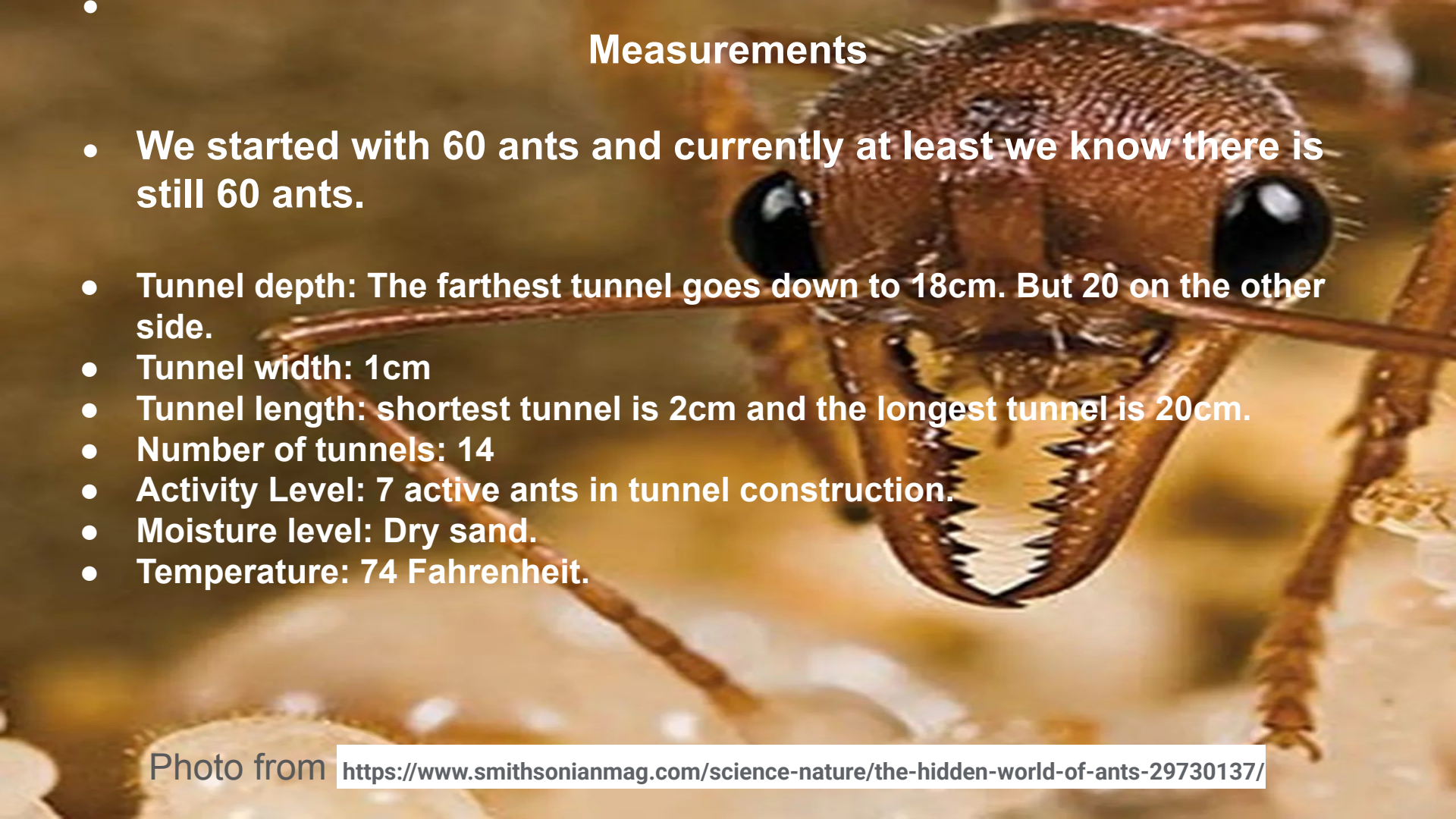
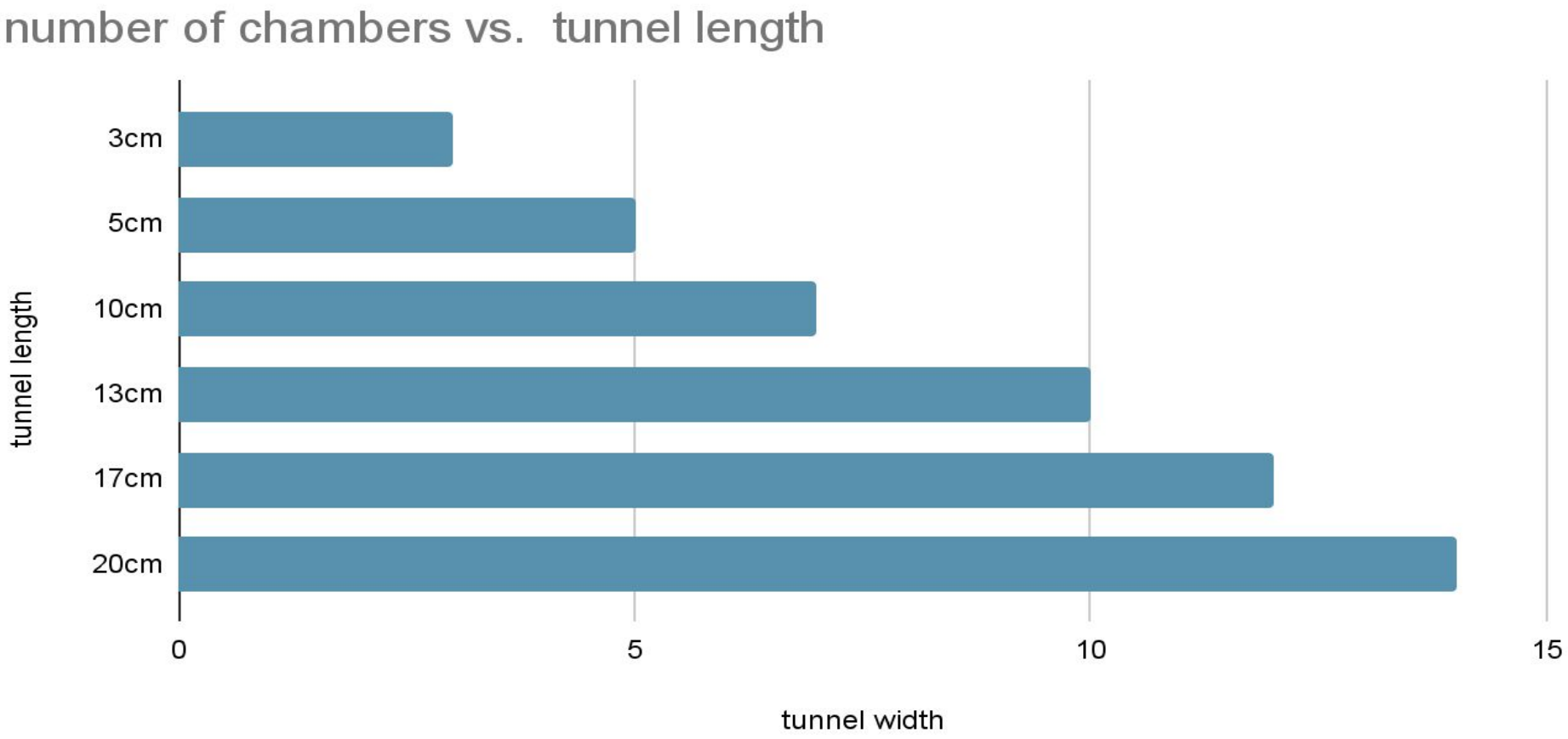
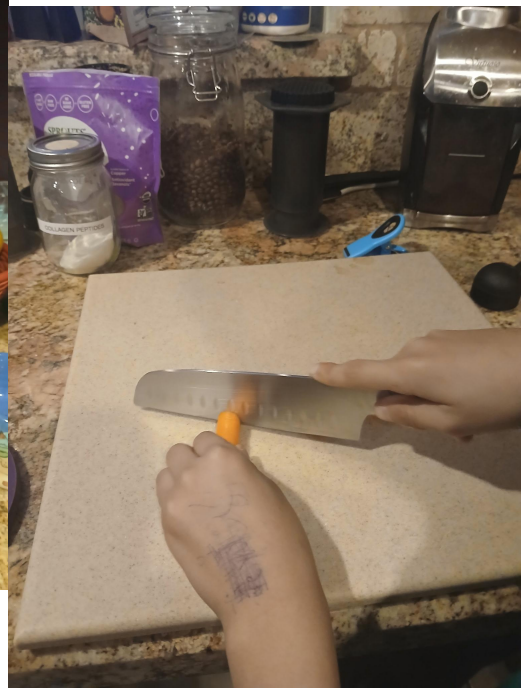


Photo from https://www.smithsonianmag.com/science-nature/the-hidden-world-of-ants-29730137/

| Week | Tunnel depth | Tunnel length | Number of chambers |
|---|---|---|---|
| 1 | 3cm | 3cm | 3 |
| 2 | 6cm | 5cm | 5 |
| 3 | 11cm | 10cm | 7 |
| 4 | 14cm | 13cm | 10 |
| 5 | 16cm | 17cm | 12 |
| 6 | 18cm | 20cm | 14 |


number of chambers vs.  tunnel length
3cm
5cm
10cm
13cm
17cm
20cm
tunnel length
0
5
10
15
tunnel width



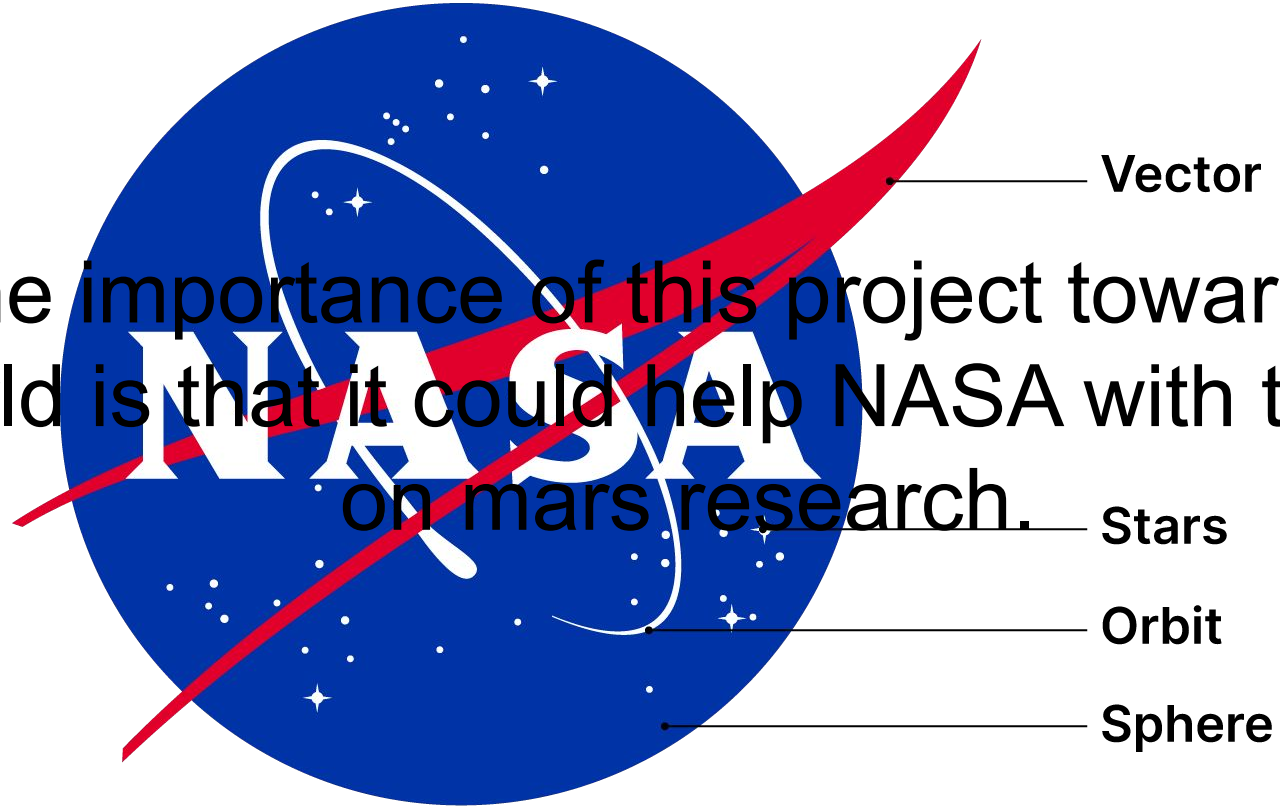
Projet photos: Working with ants. Taken by parent.

My hypothesis was completely incorrect and still there isn't any visible dead ants.

Results 60/60 ants alive currently.

So I think that mars simulant is a better substance than regular sand even though it doesn't have any organic material as i said.

An idea for further research is: try a different ant species of ant.




The importance of this project toward the world is that it could help NASA with the life on mars research.

Image retrieved by student from nasa.com

# Bibliography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